

should be resubmitted again for the examination of the current pending application to overcome the ground of rejection presented in the office action dated 6/5/02.

The pending claims are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory matter. According to the office action, they merely manipulate an abstract idea (mathematical algorithm) without a claimed limitation to a practical application.

**1. Easy Format is NOT an abstract concept:**

The subject claims are improvements of a programming method named "Easy Format" that helps users to program different kinds of microcontroller chips. Easy Format is a programming method characterized by a first "State" table and a second "Path" table. The "State" table describes the nature of a qualification signal received by an input pin of a microcontroller and also define an output pin according to the programming goal of a user. The "Path" table provides instructions and also user defined labels to instruct the microcontroller what to do upon receiving a qualified input signal. The Easy Format programming method was derived by the disclosure of US Patent 5,867,818, the issued parent patent of the subject application. Easy Format is now a standard programming method of the industry. It is licensed by different microcontroller companies to supplement Assembly Language for programming many different kinds of microcontrollers. A CD ROM (attachment A) providing the technical publications from different licensees about their Easy Format supported products is respectfully submitted with this response to support the examination of the subject application. The technical publications from the following licensees are included in the CD ROM submitted: Elan Microelectronics Corp.; Sunplus Technology Ltd.; Holtek Semiconductor Inc.; Jess Technology Co. Ltd. and Sonix Technology Co. Ltd. These technical publications disclosed Easy Format specifications, Easy Format compilers and also demo board information. Since the State and Path tables concept are now an industrial standard programming method, it is respectfully submitted that the table format programming method is **NOT** an abstract idea to be rejected under 35 USC 101. No licensee is willing to pay royalty for an abstract idea. More important, no microcontroller programming is possible with an abstract idea. Accordingly, the claimed inventions directed to different improvements of the Easy Format programming method are not abstract ideas. They are the improvements of a statutory matter.

## **2. Pre-computer to post computer activities:**

According to the office action dated 06/05/02, the claimed process simply manipulates an abstract idea that lacks practical application, pre-computer or post computer activities. The followings discussions clearly points out the practical applications, pre-computer to post computer activities of the claimed invention:

### **The practical application:**

Being enhanced versions of the Easy Format programming method, the claimed invention is a tool that allows a programmer to communicate with a computer or microcontroller. The claimed invention further enables users to express their programming goals, according to a predefined programming specification, into codes executable by a computer or a microcontroller to fulfill or perform the programming goal. Accordingly, practical applications of the claimed invention are identified.

### **The pre-computer activities:**

The pre-computer process activities specifically require users to study and to define the functional requirements of the eventually programmed computer or control apparatus. This functional definition is then transformed into executable codes to be integrated with the control apparatus through the claimed process. This pre-computer process activity of preparing the job definition before programming a computer or a microcontroller is also well known to any person skillful in the art and therefore not discussed in detail over here. The commonly known pre-computer process activity is a **necessary procedure** for the claimed process to be properly carried out. It is noted that the claimed process has additional evidence to be statutory as from time to time the pre-computer process activity requires the measurement of physical objects or activities (such as the frequency response, sampling frequency and quantization levels of the voice signals to be stored by the voice chip). These are evidence of statutory activities to be transformed outside of the computer into computer data (In re Gelnovatch, 595 F.2d 32, 41 n.7 201 USPQ 136, 145 n.7).

### **In-Process Activity:**

The In-Process Activity involves the user to make use of his mental capability and variation of the process steps claimed, to translate the aforementioned functional definition of the application (pre-computer activity) into executable codes that runs the

microcontroller or microprocessor. This process has a characteristic to be **user dependent** and is significantly different from mathematical formulae or specific algorithm for an abstract idea, which always gives the same result with a fixed set of data to be manipulated. Unquestionably the claimed process passes "the matter of human control" test which is a guideline for statutory subject matter under numerous CAFC decisions (In re Alappat).

### **Post Process Activity:**

The result of the claimed invention is translated into executable codes to be computed by a computer, or integrated with the microcontroller or microprocessor by means of EPROM or ROM integrated into the IC chip, a physical transformation of the control apparatus to serve specific applications. The resulted encoded controlling apparatus is eventually customized to perform the specific function according to the direction of the programmer. The post process activities of the claimed invention are also well known to the art and cannot be an abstract idea. A process is also considered statutory if it **requires physical acts** to be performed outside the computer independent of and following the steps to be performed by a programmed computer; where those acts involve the manipulation of tangible physical objects and results in the object having a different physical attribute or structure (*Diamond v. Diehr*, 450 U.S. at 187, 209 USPQ at 8). There are obvious evidences that the claimed processes transform functional specifications into codes executable by a micro controller. The transformed performance of the finally programmed micro controllers meets the post computer physical act test.

### **3. Specific hardware and specific software:**

The office action dated 06/05/02 alleged that the subject claims do not disclose specific hardware or specific software to perform the claimed functions, and the functionally defined means are so broad that they encompass any and every means for performing the recited functions, or the apparatus will be treated as if it were drawn to the methods or process which encompasses all of the claimed means.

Attention is now directed to the specification and software development tools submitted in the enclosed CD ROM (Attachment A) which discloses the application of Easy Format (the underlying technology which carries patentable limits to support the claimed invention). It can be easily noted that different licensees use Easy Format to support

programming of different microcontroller chips. For example, the Sonix SN700 is a DSP IC chip. The Jess Technology and Holtek controller chips are controller chips that support melody generating. The Sunplus chips focus into voice synthesizing. The examiner is correct that there is no intention of the subject application to limit the claims to a particular type of controller devices, or particular software environment as the invented technology is applicable to many different hardware and software environments.

Accordingly the examiner is respectfully requested to examine the claimed invention to encompass all different kinds of computing devices according to other limitations recited in the claims. It is true that a claims seems to be broad when it encompasses all different kind of computing hardware; however, precedent court teaching *In re Miller*, 44 F.2d 689, 169 USPQ 597 (CCPA 1971) clearly indicates that breath of a claim is not to be equated to be indefiniteness; rejection ground based on the broadness of the claims to be indefinite is therefore respectfully requested to be withdrawn.

The office action dated 06/05/02 particularly brought up claims 41 and 88 as examples of claims that merely recites generic computing devices. Listed below are the close look of the characteristics of these claims being questioned:

Claim 41 (now claim 129) recited in the office action, comprises three limitations:

- (a) the computing device comprising a first processor and a second processor;
- (b) the computing device executes a table format program defined by m configuration states interact with n paths (patent law requires the examiner to based on the background of an ordinary person skill in the art to read the specification for interpreting the meaning of m configuration states and n paths, and how these configuration states interact with said n paths) and
- (c) said first processor is configured to execute at least part of said table format program.

The limitation (b) of claim 129 characterized Easy Format, now a standard industrial programming method, and therefore limitation (b) alone is a statutory patentable subject. It is also true that the broadest interpretation of said first and second processors as in limitation (a) should encompass all different kinds of computing devices. However, this

broad interpretation of the limitation (a) should not be interpreted as indefiniteness according to the court teaching of *In re Miller*.

Secondly, since limitation (b) that characterized Easy Format, is the root of the subject claim; and that Easy Format is now proven to be an established art being used in the market (supported by the content of the submitted CD ROM as evidences), the root of the claimed invention is therefore determined to be not indefinite. When claim 129 is read as a whole, it is also not indefinite as the claim recites the improvement of the existing Easy Format, a prior statutory subject matter as defined in limitation (b). Accordingly, the examiner is respectfully requested to examine claim 129 based on the established art of limitation (b) in view of the improvement characteristics of (a) and (c).

For the situation of claim 88 (now claim 176), the limitations are:

- (a) a first computing apparatus connected with a remote second computing devices;
- (b) memory means storing digital data executable by said first computing apparatus or said second remote computing device;
- (c) said digital data comprising representation of a table format program having x configuration states and y paths...

When claim 176 is evaluated, limitation (c) is a previously established technology represented by the Easy Format programming method. It is also true that the broadest interpretation of the first computing apparatus and second computing device of limitation (a) encompasses all different kinds of computing devices. However, this interpretation does not render claim 176 to be indefinite due to the teaching of *In re Miller*. Accordingly, the examination of claim 176 should be determined according to the "as a whole" consideration of the additional characteristics (a) and (b) added on the prior established know how (c).

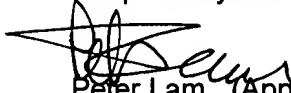
#### **4. Further evidence:**

The subject patent application had also been filed in Taiwan, claiming the parent USA patent application 09/ 169,462 as priority application. This was important as all the Easy Format licensees quoted in the CD ROM except Jess Technology are reputable Taiwan public companies specialized in designing microcontrollers. Since Easy Format is a standard programming tool in Taiwan, the corresponding patent application was

examined, allowed and issued on 7/21/2001 without any significant claim amendment. Enclosed please find a copy of the patent issued by the Taiwan Patent Office. A declaration together with a copy of this issued patent is also respectfully submitted by the applicant as attachment B. It can be observed from the attached B copy that the corresponding Taiwan patent application also carried the parent USA application number 09/169,462 a priority number and a priority date of 10/09/98. This foreign patent is another strong evidence that the claimed inventions are not indefinite. Claims that are indefinite should not be allowed by a foreign patent office, especially in a country where four public trading companies licensed the root Easy Format technology from a USA inventor.

As a conclusion, the issued Taiwan patent of the subject patent application is an evidence that this application is of statutory matter. The submitted CD ROM (attachment A) provides solid evidence of the programming method Easy Format, which constitutes the root of the subject invention, is also of statutory matter. Since the claimed inventions are improvements of the statutory subject matter "Easy Format", it is respectfully submitted that the claimed inventions are also of statutory matters. The examiner is respectfully solicited to examine each claim according to the characteristics and limitations recited by the claim. The Applicant also respectfully requests the Examiner to propose broadest allowable claim or specification amendment to the application pursuant to MPEP 707.07(j) if further amendment to any claim is required for the rejection to be overcome.

Respectfully submitted by,

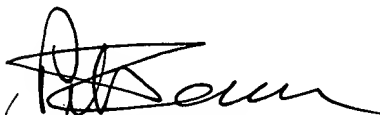


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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231, on January 30, 2003.



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